

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A surface plasmon resonance sensor comprising:
a prism having a surface on which a metallic layer is coated;
a ~~metallic nanoparticle layer~~ a first dielectric layer having metallic nanoparticles
formed on the metallic layer;
a light source giving off a light to the prism, the light being reflected by the surface
of the prism to form a reflected light; and
a light detector for detecting the reflected light.
2. (Currently Amended) The surface plasmon resonance sensor according to claim 1,
further comprising a second dielectric layer coated on the ~~metallic nanoparticle layer~~
first dielectric layer having metallic nanoparticles.
3. (Original) The surface plasmon resonance sensor according to claim 1, wherein the
light source comprises a semiconductor laser array for radiating multiple laser
beams, a polarizing device and a half-wave plate for adjusting polarized components
of the laser beams.
4. (Currently Amended) The surface plasmon resonance sensor according to claim 1,
further comprising a spectral prism for splitting the reflected light into polarized
transverse magnetic light wave and transverse electric light wave.
5. (Original) The surface plasmon resonance sensor according to claim 1, wherein the
metallic layer comprises gold.

6. (Original) The surface plasmon resonance sensor according to claim 1, wherein the metallic layer comprises silver.
7. (Original) The surface plasmon resonance sensor according to claim 1, wherein the metallic layer has a thickness of approximately 50 nm.
8. (Currently Amended) The surface plasmon resonance sensor according to claim 1, wherein the metallic nanoparticles of the first dielectric layer comprise ~~nanoparticle layer comprises~~ at least nanometer order grains selected from a group consisting of gold, silver and platinum.
9. (Currently Amended) The surface plasmon resonance sensor according to claim 1, wherein the metallic nanoparticles of the first dielectric layer comprise ~~nanoparticle layer comprises~~ nanoparticles having a diameter of approximately 1-50 nm.
10. (Currently Amended) The surface plasmon resonance sensor according to claim 1, wherein the first dielectric ~~metallic-nanoparticle~~ layer has a thickness of approximately 1-50 nm.
11. (Currently Amended) The surface plasmon resonance sensor according to claim 1, wherein the first dielectric ~~metallic-nanoparticle~~ layer is formed by means of co-sputtering.
12. (Currently Amended) The surface plasmon resonance sensor according to claim ~~[[8]]~~ 1, wherein the first dielectric ~~metallic-nanoparticle~~ layer comprises a material

selected from a group consisting of polymethyl methacrylate (PMMA) and silicon oxide.

13. (Currently Amended) The surface plasmon resonance sensor according to claim 1, further comprising a self assembled monolayer adjacent to the first dielectric ~~the metallic nanoparticle~~ layer.
14. (Currently Amended) The surface plasmon resonance sensor according to claim 13, wherein the self-assembled monolayer comprises at least one of functional groups and molecules ~~molecule~~ selected from a group consisting of SH, NH₂, CHO, COOH, and Biotin.
15. (Currently Amended) A method for detecting properties of substance by using a surface plasmon resonance sensor, the method comprising the following steps:
 - (a) preparing a surface plasmon resonance sensor comprising a prism having a surface on which a metallic layer is coated, a first dielectric layer having metallic nanoparticles ~~metallic nanoparticle layer~~ formed on the metallic layer, a light source giving off a light to the prism, the light being reflected by the surface of the prism to form a reflected light and a light detector for detecting the reflected light;
 - (b) preparing a self-assembled monolayer on ~~surface of the metallic nanoparticle layer of the surface plasmon resonance sensor~~ the first dielectric layer;
 - (c) preparing a sensing layer immobilized onto the self assembled monolayer for reacting with said self assembled monolayer; and

(d) contacting said substance with the sensing layer.

16. (Currently Amended) A method for detecting properties of substance by using the surface plasmon resonance sensor, the method comprising the following steps:

- (a) preparing a surface plasmon resonance sensor comprising a prism having a surface on which a metallic layer is coated, a first dielectric layer having metallic nanoparticles ~~metallic nanoparticle layer~~ formed on the metallic layer, a light source comprising a semiconductor laser array for radiating multiple laser beams, a polarizing device and a half-wave plate for adjusting polarized components of the laser beams, and a light detector for detecting a reflected light formed by reflecting the laser beams by the surface of the prism;
- (b) preparing a self-assembled monolayer on ~~surface of the metallic nanoparticle layer of the surface plasmon resonance sensor~~ the first dielectric layer;
- (c) preparing a sensing layer immobilized onto the self assembled monolayer for reacting with said self assembled monolayer; and
- (d) contacting said substance with the sensing layer.

17. (Currently Amended) A method for detecting properties of substance by using the surface plasmon resonance sensor, the method comprising the following steps:

- (a) preparing a surface plasmon resonance sensor comprising a prism having a surface on which a metallic layer is coated, a first dielectric layer having metallic nanoparticles ~~metallic nanoparticle layer~~ formed on the metallic layer, a light source giving off a light to the prism, the light being reflected by the

surface of the prism to form a reflected light, a spectral prism for splitting the reflected light into polarized transverse magnetic light wave and transverse electric light wave and a light detector for detecting the polarized waves;

- (b) preparing a self-assembled monolayer on ~~surface of the metallic nanoparticle~~
~~layer of the surface plasmon resonance sensor~~ the first dielectric layer;
- (c) preparing a sensing layer immobilized onto the self-assembled monolayer for reacting with said self-assembled monolayer; and
- (d) contacting said substance with the sensing layer.